

## **TITLE**

# **SYSTEM AND METHOD OF ORDER REEXAMINATION IN ELECTRONIC DATA INTERCHANGE**

## **BACKGROUND OF THE INVENTION**

### **5 Field of the Invention**

The present invention relates to a system and method of order reexamination, and particularly to a system and method of order reexamination that ensures the accuracy of electronic orders in an EDI (Electronic Data Interchange) environment.

### **10 Description of the Related Art**

With the advancement of information technology, enterprises are computerized to strengthen competitive ability and service quality. The computerized scope covers workflow between departments inside the enterprise and business models  
**15** between enterprises.

EDI (Electronic Data Interchange) is a business model that enterprises do business by transferring electronic data in a standard format. EDI and related techniques have matured to solve business problems between enterprises. In an EDI  
**20** environment, the enterprises can be fully computerized, thus most operations can be performed utilizing the convenience, automation and efficiency of computers and networks, thereby saving manpower and improving response time and efficiency.

In EDI operations, dedicated business data generated by an  
**25** application system of a sender has to be converted to an EDI message with the standard format adopted by partners in advance. After the EDI message is received, it must be converted to data

of a recognized format before being transferred to the application system, such as an order management system to perform related processes.

However, the conversion system that performs the conversion of EDI messages, such as GENTRAN server, can cause inaccuracies in orders extracted from the EDI messages. For example, orders may be lost when a large number of EDI messages are converted at one time, such that enterprises are still required to manually check orders with partners, thereby increasing business risks and costs, diluting the original value of EDI.

In addition, since the conversion system lacks effective error notification means if the conversion system is overloaded or malfunctions-based shutdown, the back-end application system remains unaware of the situation, causing order loss and business difficulties.

#### **SUMMARY OF THE INVENTION**

It is therefore an object of the present invention to provide a system and method of order reexamination that ensures the accuracy of electronic orders in an EDI (Electronic Data Interchange) environment.

It is another object of the present invention to generate notification if orders are lost or the conversion system experiences malfunction.

To achieve the above objects, the present invention provides a system of order reexamination in EDI. The system includes an EDI server, a message conversion server, an order management system, and an order reexamination system.

The EDI server receives an EDI message and transfers it to the message conversion system and the order reexamination

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system. The message conversion system transforms the EDI message into a first electronic order group, and transfers it to the order management system. The order reexamination system parses the EDI message to generate a second electronic order group. The order reexamination system compares the first electronic order group from the order management system to the second electronic order group, and generates a notification or warning message if order IDs in the first electronic order group do not match the second electronic order group or the quantity of orders in the first electronic order group is different from that of the second electronic order group.

A method of order reexamination in an EDI according to the present invention is also provided. First, an EDI server receives an EDI message and transfers it to a message conversion system and an order reexamination system. Then, the message conversion system transforms the EDI message into a first electronic order group comprising a plurality of orders with respective order IDs.

Then, the order reexamination system parses the EDI message to generate a second electronic order group comprising a plurality of orders with respective order IDs. Thereafter, the first electronic order group and the second electronic order group are compared, and a notification is generated if the order IDs in the first order do not match the second order or the quantity of the orders in the first order is different from that of the second order.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The aforementioned objects, features and advantages of the invention will become apparent by referring to the following

detailed description of the preferred embodiment with reference to the accompanying drawings, wherein:

Fig. 1 is a schematic diagram illustrating the architecture of the system of order reexamination in an EDI according to the present invention; and

Fig. 2 is a flowchart showing the method of order reexamination in an EDI according to the present invention.

#### **DETAILED DESCRIPTION OF THE INVENTION**

Fig. 1 illustrates the architecture of the system of order reexamination in an EDI (electronic data interchange) according to the present invention. The system includes an EDI server 10, a message conversion server 11, an order management system 12 and an order reexamination system 13 having an order conversion unit and a job scheduling module (not shown in Fig. 1).

The EDI server 10 follows the EDI standard. The EDI server 10 receives an EDI message from a client EDI server 15 via a network 14. The EDI server 10 may transfer the received EDI message to the message conversion system 11 and the order reexamination system 13.

The message conversion system 11 works as a GENTRAN server transforming EDI messages into electronic orders having a specific format recognized by the native application system. The message conversion system 11 may convert the received EDI message into a first electronic order group according to a standard EDI format, comprising a plurality of orders, each having a unique order ID. The first electronic order group is transferred to the order management system 12, such as the SAP system commonly used in industry for order dispatching, planning and management, and financial management.

In addition, the order reexamination system 13 may receive the EDI message from the EDI server 10. The order conversion unit of the order reexamination system 13 parses and divides the EDI message according to a specific definition symbol and format, thereby generating a second electronic order group comprising a plurality of orders, each having a unique order ID.

The job scheduling module of the order reexamination system 13 may obtain the first electronic order group from the order management system 12 in real time within a preset time interval, and compare the first electronic order group and the second electronic order group generated by the order conversion unit. If the order IDs in the first electronic order group do not match the second electronic order group or the quantity of orders in the first electronic order group is different from that of the second electronic order group, the order reexamination system 13 generates a notification or warning message 16 for system recovery in real time, and sends a signal to the order management system 12 to suspend the order management system 12. It should be noted that the order reexamination system 13 also generates the notification 16 to notify related users if the first electronic order group cannot be obtained from the order management system 12.

Fig. 2 shows the method of order reexamination in an EDI according to the present invention. First, in step S20, the EDI server 10 receives an EDI message from the client EDI server 15 via the network 14, and transfers the received EDI message to the message conversion system 11 and the order reexamination system 13. Then, in step S21, the message conversion system 11 transforms the EDI message into a first electronic order group

according to the standard EDI format, and transfers it to the order management system 12.

Then, in step S22, the order reexamination system 13 parses and divides the EDI message to generate a second electronic order group. Thereafter, in step S23, the order reexamination system  
5 13 obtains the first electronic order group from the order management system 12, and in step S24, compares the first electronic order group and the second electronic order group. If the order IDs in the first electronic order group do not match  
10 the second electronic order group or the quantity of orders in the first electronic order group is different from that of the second electronic order group, in step S25, the order reexamination system 13 generates a notification or warning message 16 for system recovery, and a suspend signal to the order  
15 management system 12.

Similarly, the order reexamination system 13 further generates another notification 16 for system recovery in real time if the first electronic order group cannot be obtained from the order management system 12.

20 As a result, using the system and method of order reexamination in an EDI according to the present invention, the accuracy of electronic orders in an EDI environment is ensured. In addition, if orders are lost or the conversion system malfunctions, a notification is automatically generated for  
25 system recovery in real time.

Although the present invention has been described in its preferred embodiments, it is not intended to limit the invention to the precise embodiments disclosed herein. Those who are skilled in this technology can still make various alterations  
30 and modifications without departing from the scope and spirit

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of this invention. Therefore, the scope of the present invention shall be defined and protected by the following claims and their equivalents.